

GROUND WATER QUALITY PROTECTION

- Limits on potential nitrate loading. The Cape Cod model by-law sets a performance standard for nitrogen loading, allowing an applicant to calculate nitrogen released from both on-site sewage flows and fertilized turf. The applicant is then provided flexibility to trade off one against the other in development of the site. Design specifications are based on a Southampton, New York, overlay district, which restricts the amount of square footage that can be devoted to fertilized turf and shrubs to no more than 15 percent of the plot. This is based on research by the Long Island Section 208 plan establishing the rates of nitrogen leaching by turf culture.
- Limits on sewage flows, in gallons.
- Natural area preservation. The Southampton, New York, overlay district requires that 80 percent of a lot be left in its naturally vegetated condition to maximize recharge, minimize chemical fertilization, and preserve water quality, and promote water conservation by minimizing watering.
- Runoff management.
- Site plan review. Probably one of the most important requirements of the Cape Cod by-laws, the site plan review allows for a close examination of all aspects of development within the critical zone. The Cape Cod by-law requires a nonresidential applicant to provide information on the type and quantities of chemicals that will be used on the site, measures that will be taken to prevent and contain spillage of the chemicals, and the means and availability of proper disposal of any hazardous wastes generated on the site. Outside experts may be involved in the site plan review to provide expertise not available within a town planning board.
- Special Review Board. The Cape Cod model ordinance creates a special interdepartmental review board with representatives of health, water, and conservation agencies as well as the fire officials who manage permits for underground storage of petroleum products and chemicals. Permits are granted by this special board, providing maximum input of available expertise into the decision.

In summary, zoning has been successfully employed for the protection of thousands of acres to tens of square miles of critical areas on Cape Cod and Long Island and in Dade County, Florida. Through zoning, not only can the density of sources of ground water contamination be reduced but a broad range of controls over future activities can be put into place. The main limitation on the effectiveness of zoning is the degree of development already existing in the recharge area. All three areas (Cape Cod, Dade County, and Long Island) have determined that substantial portions of their critical zones are too developed for zoning to have any impact. Other forms of control, through health regulations and general by-laws, must be